

Soil and Water Remediation, Groundwater/Vadose Zone (RL-0030)

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Remains of the 183-H Waste Site (Solar Evaporation Area) – appears to have been the source of chromium in the deep soil zone.

Overview

This section addresses Project Baseline Summary (PBS) RL-0030, *Soil and Water Remediation Groundwater/Vadose Zone*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of July 2006.

Notable Accomplishments

Well Drilling: All fifteen of the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement [TPA])-required Calendar Year (CY) 2006 wells that were reported on in June 2006 have been accepted by the Washington State Department of Ecology (Ecology), and ten of the fifteen CY 2007 wells have been completed and accepted by Ecology. Drilling is complete for the two wells being installed for bio-remediation studies at 100-H. Support continues to be provided to the Office of River Protection in the drilling of four deep seismic boreholes needed for Vitrification Plant construction.

Cleaning up Chromium Along the River: Excellent progress continues to be made towards meeting the RAO of 20 parts per billion (ppb) for the extraction and compliance wells in the 100-H Area. There is a clear correlation between the spikes in concentration above 20 ppb in one well only, and changes in elevation of the river. This indicates that the concentration spikes are due to chromium in the deep soil zone being mobilized when the river is at high stages, which causes groundwater to temporarily rise in elevation and wet the contaminated soils. In the 100-K Area, all activities have been completed to begin construction of a new chromium pump-and-treat system near the KW Reactor in early August. The treatment skid is being manufactured offsite and is to be delivered to the site in mid-August. Also, a drilling contract has been awarded for four new wells to be used in the expansion of the pump-and-treat system that has been operating for nearly a decade at another location in the 100-K Area. Lastly, two new technology development projects were approved that focus on understanding the geochemical nature of chromium in the subsurface in order to enhance remediation technology evaluations and localizing the source of contamination for the groundwater plume that is being remediated by the In-Situ Redox Manipulation Barrier in the 100-D Area.

Decommissioning Old, Unused Wells: Administrative decommissioning of 221 wells is in final review; 455 have already been completed for a projected total of 676 wells administratively decommissioned in FY 2006.

Cleaning Up Strontium-90 Along the River: A pilot test was initiated on May 31, 2006, to evaluate injection of a phosphate mineral into the 100-N groundwater to create a mineral (apatite) barrier that will grab onto strontium-90 and hold it in place as it naturally decays. Post-injection monitoring of the test site indicates that apatite is forming even though strontium-90 concentrations in monitoring wells continue to be elevated and has not yet matured enough to create the barrier. Excess calcium (more than was needed in the apatite) persists, and this acts to maintain the strontium-90 in solution. This is likely to diminish in time as mixing and dilution in the near-river aquifer occurs, and the strontium-90 goes back onto the sediments. Monitoring wells have been staked in the field for the next pilot injection at a well at the downstream end of the barrier.

FY 2006 Funds vs. Spend Forecast (\$M)

	Projected FY 2006 Funding	FY 2006 Fiscal Year Spend Forecast	Variance
Soil & Water Remediation, Groundwater/Vadose Zone	\$ 52.3	\$ 49.9	\$ 2.3

FY 2006 Schedule/Cost Performance (\$M)

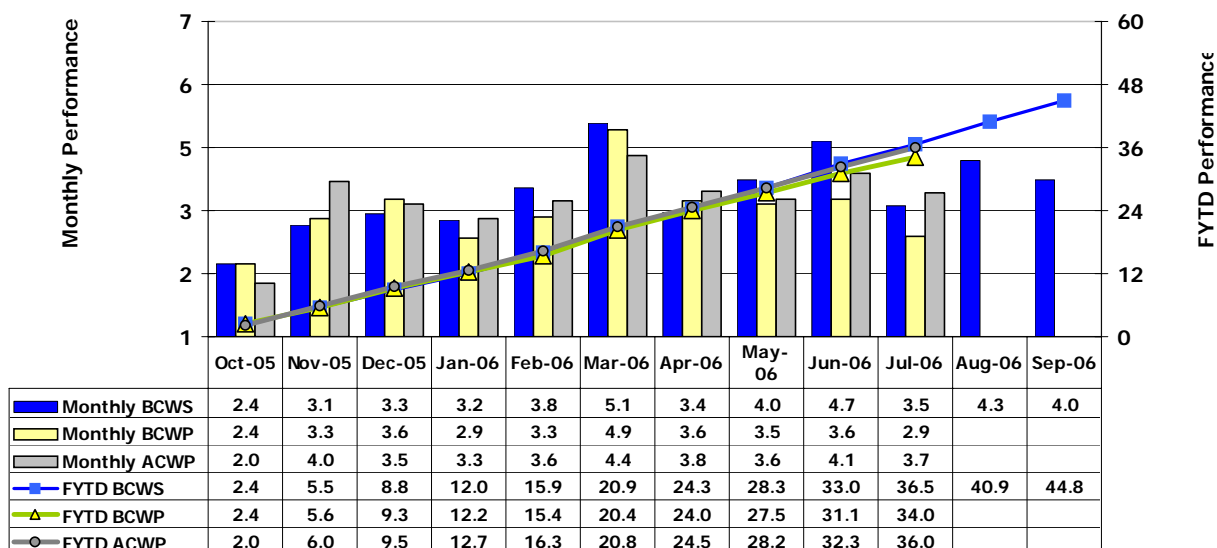
	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion
Soil & Water Remediation, Groundwater/ Vadose Zone	\$36.5	\$34.0	\$36.0	-\$2.5	-6.8%	-\$2.0	-5.8%	\$44.8

Numbers are rounded to the nearest \$0.1M and include the Closure Services allocation.

Schedule Performance (-\$2.5M/-6.8%). Variance within threshold; no explanation required.

Cost Performance (-\$2.0M/-5.8%). Variance within threshold; no explanation required.

Performance Analysis FYTD and Monthly (\$M)



Milestone Achievement

Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/Comments
M-24-57G	Install a Cumulative of 45 Wells by December 31, 2005	RL	12/31/05	8/16/05		Complete
M-24-57J	Install a Cumulative of 45 Wells by December 31, 2006	RL	12/31/06	5/11/06		Complete
M-15-48A	Submit Draft A 200-ZP-1 CERCLA Remedial Investigation Report to EPA	RL	5/31/06	5/31/06		Complete